



Camera and Electronic Products for Integrators

CEILINGVIEW™ MEGA-PRO VISUALIZER

Ceiling Mounted 3-CCD Mega-Pixel Visualizer System

The Vaddio CeilingVIEW Mega-Pro Visualizer Camera System is designed to provide integrators with an easy to install in-ceiling Mega-Pixel Visualizer System. Featuring the New Sony® 3-CCD Advanced HAD imaging sensors with Mega-Pixel Resolution, the CeilingVIEW Mega-Pro provides superb picture quality and precise color reproduction and high-resolution images in both 4:3 and 16:9 modes (see Fig. 1).



Figure 1: CeilingVIEW Mega-Pro Mounted in Tile

INTRODUCTION

The Vaddio CeilingVIEW Mega-Pro Visualizer Camera System is mounted into a recessed, metal ceiling camera enclosure with ceiling tile supports and is equipped with Vaddio's EZCamera™ Cabling System which allows the integrator to use Cat. 5 cabling to run power and video (both composite and S-Video) over a single Cat. 5 and camera control over a second Cat. 5 cable.

The CeilingVIEW Mega-Pro also features an RGBHV output for displaying images on a computer graphics display, plasma monitor or LCD projector. The output resolutions are user selectable and range from VGA to SXGA in both normal and wide formats.

The VISCA control interface is included to allow the camera to work with any other VISCA compatible control devices. The PowerRite™ power supply regulates the right amount of power needed for the camera over the Cat. 5 cabling.

INTENDED USE

Before operating the Vaddio CeilingVIEW Mega-Pro Visualizer, please read the entire manual thoroughly. The camera system was designed, built and tested for use indoors. Outdoor operation is not recommended, has not been tested and could damage the camera and/or create a potentially unsafe operating condition. Use only the Vaddio provided power supply.

SAVE THESE INSTRUCTIONS

The information contained in this manual will help you install and operate your Vaddio CeilingVIEW Mega-Pro Visualizer. For reference, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the website. These documents can be downloaded from www.vaddio.com free of charge.

IMPORTANT SAFEGUARDS



Read and understand all instructions before using. Do not operate the camera if the camera has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in water or other liquids and avoid extremely humid conditions.

Use only the power supply provided with the CeilingVIEW Mega-Pro Visualizer camera system. Use of any unauthorized power supply will void any and all warranties.

UNPACKING

Carefully remove the device and all of the parts from the packaging. *Unpack and identify the following parts:*

- One (1) CeilingVIEW Mega-Pro Camera Module
- One (1) White trim ring with IR sensor attached
- One (1) Vaddio Quick-Connect Box
- One (1) Vaddio IR Remote Controller
- One (1) Vaddio PowerRite 18VDC Power Supply
- One (1) AC power cable for Power Supply
- One (1) 12' (3.66m) S-Video cable
- One (1) 12' (3.66m) Composite video cable
- Two (2) Adjustable ceiling tile support rails
- One (1) RJ-45 to DB9 EZCamera™ Control Adapter
- Mounting Hardware
- Installation and User Guide (341-203)

INSTALLATION

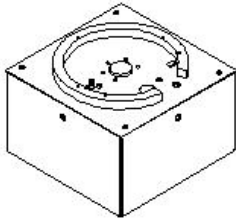
The CeilingVIEW Mega-Pro Visualizer is an integrated document/object camera specifically designed for installation in a suspended ceiling tile above a conference table, lectern or work surface. Recommended ceiling height range is between 8' and 12' (2.44m to 3.66m). Note: A recessed installation kit is available to install the Mega-Pro camera in a drywall or hard ceiling.

Before Installing

- Check above the ceiling tile where you plan to install the camera to make sure the area is clear and that there is adequate room for the CeilingVIEW Mega-Pro Camera Module and all of its components.
- The camera module enclosure and the tile support rails allow for superior flexibility and positioning freedom when used with 2'x2' and 2'x4' ceiling tiles. The camera does not have to be mounted in the center of a tile.
- For cutting ease, remove the marked ceiling tile and place on a suitable and safe work surface.
- If camera is to be controlled as part of a multi camera system, please use the CeilingVIEW Mega-Pro Visualizer as the last camera in the control chain to support the Sony daisy chain control standard.

Camera Module

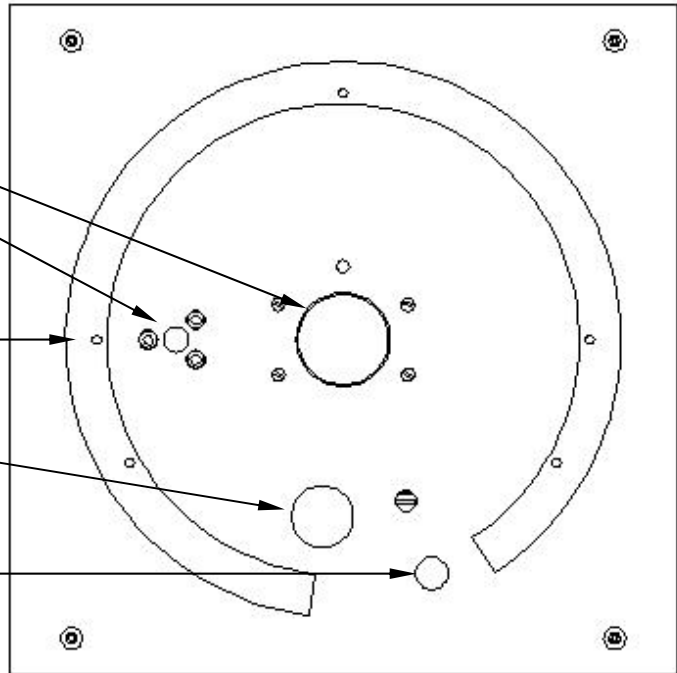
For video reference, the laser window (shown in Figure 2) will be at the top of the image displayed. Take this into consideration when positioning the camera module. The supplied mounting rails may need to be used for additional support of the camera on the ceiling tile to distribute the weight of the camera into the grid and avoid tile warping.



Mega-Pro Module (Isometric view)

Figure 2:
CeilingVIEW Mega-Pro Camera Module

- Camera Lens
- Laser Positioning Pointer and adjustments
- Trim Ring Mounting Holes (2)
- Dip Switch Access Cover for IR Remote Assignment
- IR Sensor Cable slot for attachment to IR Sensor on Trim Ring

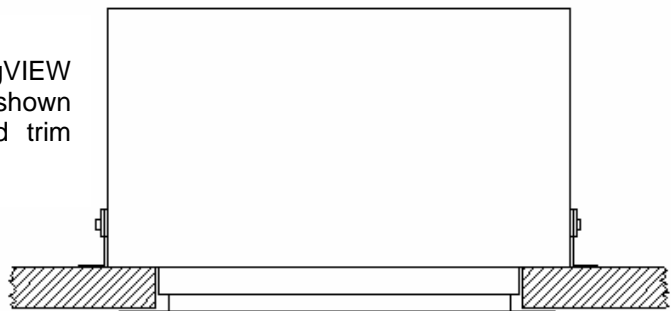


Mounting Instructions

Mounting the CeilingVIEW Mega-Pro:

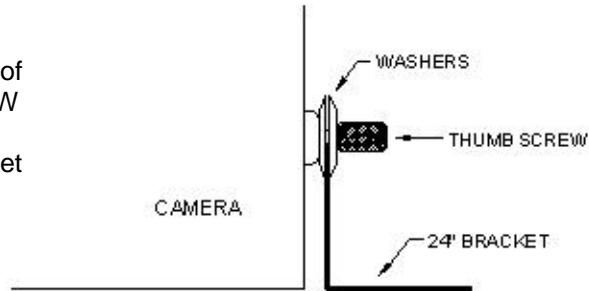
- Step 1)** Attach a string or plumb bob to the ceiling tile with a thumbtack.
- Step 2)** Position the string directly over ample table space or work surface to allow easy document and object positioning.
- Step 3)** Using a sharp utility knife, score a 7-1/4" diameter circle into the front of the tile centered on the string.
- Step 4)** Carefully cut out the 7-1/4" hole.
- Step 5)** Place the tile support rails on the backside of the tile and center over the hole. Carefully place camera in cutout hole from the back of tile (see Figure 3).

Figure 3:
Side View of CeilingVIEW Mega-Pro Module shown with tile supports and trim ring in place.



Step 6) Using the supplied thumbscrews and washers, attach the support rails to the CeilingVIEW PTZ camera (see Figure 4). Place rail edge between two washers and tighten thumbscrew securely. **Note: The thumbscrew sits on top of the rail, not through the holes on the rail.**

Figure 4:
Side View of CeilingVIEW Mega-Pro 24" Bracket placement



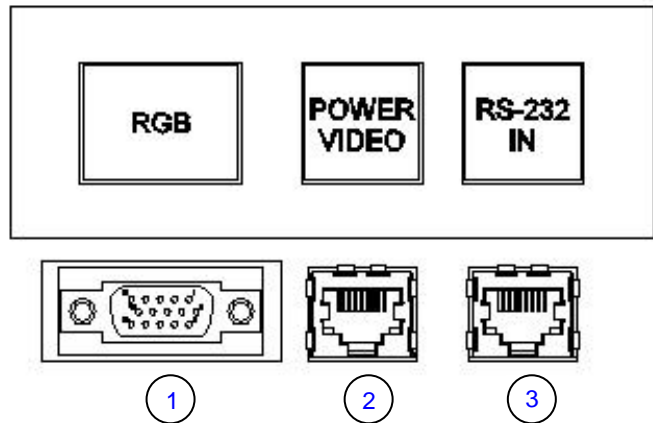
Step 7) Cabling - The Cat.5 cable (plenum rated as code dictates) is run from the ceiling location where the camera is to be mounted, to where the Quick-Connect Box is located near the main rack or head end equipment. Both the S-Video and Composite Video outputs are active. Connections on the back of the CeilingVIEW Mega-Pro Module are shown in Figure 5 below.

Figure 5:

1 - RGB: RGBHV output on DB-15HD-F to Plasma, LCD or computer monitor (cable not included).

2 - Power/Video: Carries power to the Camera module and Video (both S-Video and Composite video) out to Quick-Connect Box at the rack or head end location.

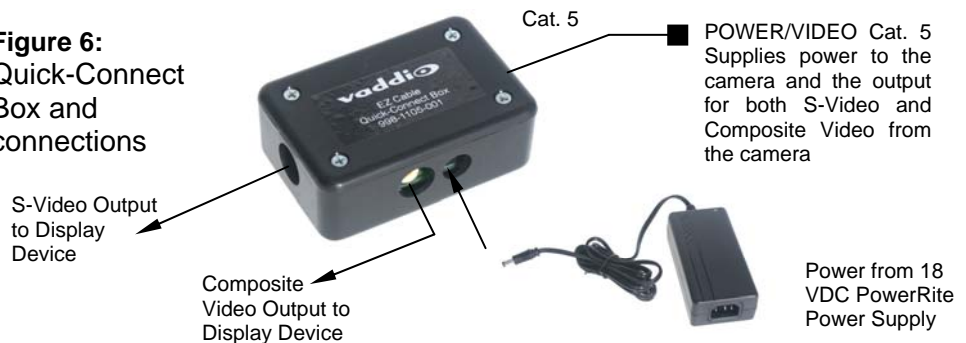
3 - RS-232 IN: Control Input on RJ-45 Jack (RJ-45 to DB-9 control adapter included (supports VISCA protocols).



Quick-Connect Box

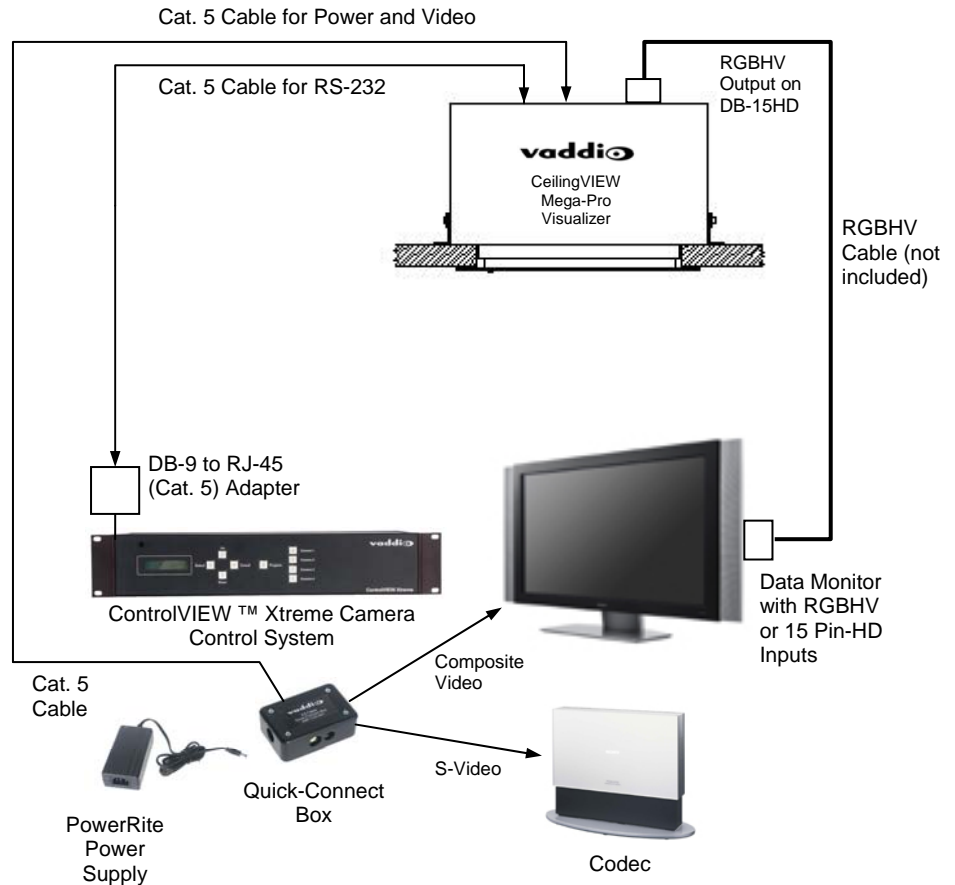
For the Quick-Connect Box Connections to and from the camera module (see Figure 6 and Figure 7).

Figure 6:
Quick-Connect Box and connections



System Example

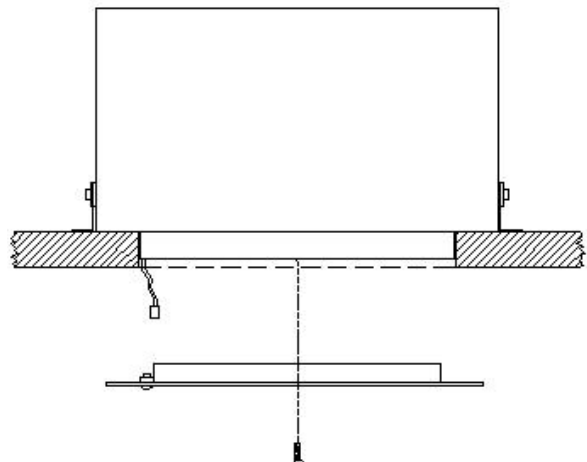
Figure 7: Configuration of system using CeilingVIEW Mega-Pro.



Step 8) To finish up the installation, the camera and ceiling tile should be carefully replaced in the suspended ceiling at this time. Locate the white trim ring assembly and plug the IR cable into the IR board connector on the trim ring lip (see Figure 8). Take care not to pull any more than about 2 inches of cable out from the camera enclosure. The connectors will fit together only one way with a positive click. Carefully move trim ring into position on the bottom of ceiling tile while feeding IR cable back into camera enclosure and secure with the two supplied white screws.

Figure 8: Connect the IR sensor on the trim ring to the IR cable and attach the trim ring to the front of the CeilingVIEW Mega-Pro with the two (2) provided white screws.

Note: *DO NOT hang the trim ring from the IR cable at any time.*



**INITIAL
ACTIVATION**

With the Cat.5 cable routed from the POWER/VIDEO jack on the back of the camera to the Quick Connect Box, connect the supplied Vaddio PowerRite power supply. The camera zoom will home into position and the S-Video and Composite Video signals will be live and viewable after the camera is fully initialized. *(Reminder: Use of a power supply other than the provided Vaddio power supply for this device will void warranty and may cause camera and equipment damage).*

**CONTROLLING
THE CAMERA**

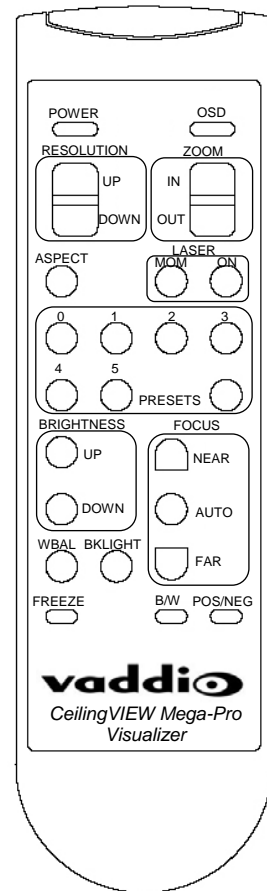
The Camera can be controlled with the Vaddio IR Remote Controller or through RS-232 using VISCA control protocol with the addition of the Vaddio resolution specification.

IR Remote

The Vaddio IR Remote Controller for the CeilingVIEW Mega-Pro Visualizer (see Figure 9) uses AAA batteries (not included). To initialize the remote, load the batteries, Push and hold the POWER and FREEZE buttons simultaneously for five (5) seconds. To operate, aim remote at camera and depress desired button. The remote functions are listed below.

Figure 9: Vaddio IR Remote Functions

- POWER: Camera on/off
- ZOOM: IN (Tele)
OUT (Wide)
- FOCUS:
 - AUTO: Auto Focus Mode ON
 - NEAR: NEAR button exits Auto Focus Mode and manually adjusts Focus near
 - FAR: FAR button exits Auto Focus Mode and manually adjusts Focus far
- BKLIGHT: Back Light Compensation
- LASER:
 - ON: on/off toggle
 - MOM: Turns on Laser for five seconds
- BRIGHT:
 - UP (brightness up)
 - DOWN (brightness down)
- PRESET: Six (6) presets - (0 though 5)
SET: for storing presets of Zoom positions on the camera
- RES: (Resolution Selection for RGBHV out)
UP: Scrolls up the List of Resolutions
DOWN: Scrolls down the resolution list
- ASPECT: Switches Between 4:3 and 16:9 modes
- OSD:
 - Video Output: Displays Zoom Gauge, Brightness +& -, Back Light, Auto Wbal, Pos/Neg Art, Focus + & - and Aspect Ratio
 - RGBHV Output: Displays Selected PC Resolution Name, Number and Vertical Refresh Rate (For example: XGA, 1024 x 768, 60Hz).
- B/W: Black and White Mode (color off)
- POS/NEG: Pos/Neg. Art Mode
- W/BAL: One Touch White Balance
- FREEZE: Freeze Frame/Image Effect

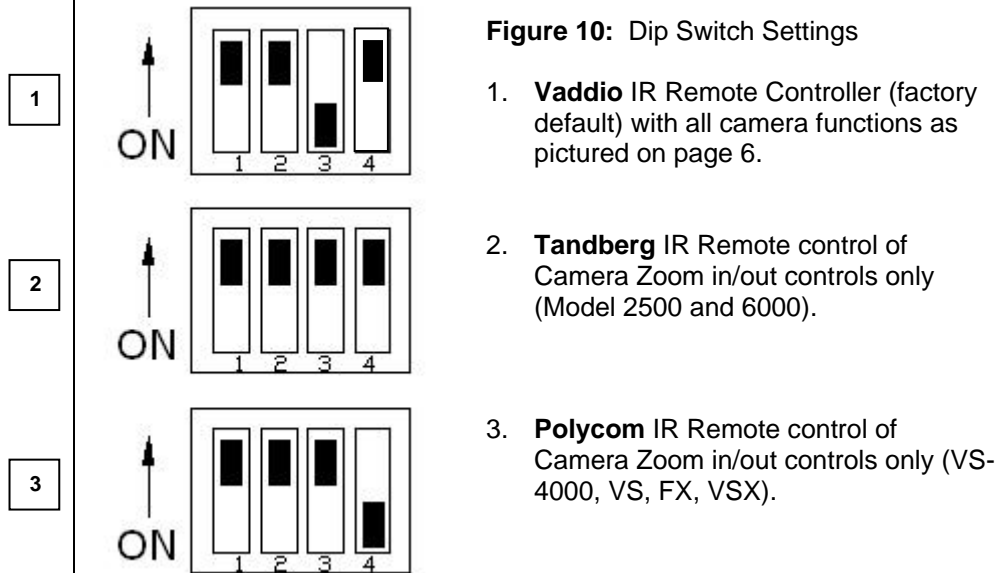


To Initialize Remote:

- Put in fresh AAA Batteries
- Push and hold the POWER and FREEZE buttons simultaneously for five (5) seconds

IR REMOTE CODES

Like the original Vaddio CeilingVIEW, the CeilingVIEW Mega-Pro can accept other brands of IR remote signals to control the motorized zoom functions of the camera. To change the remote setting, remove the dipswitch cover plug on the face of the camera (see Figure 2, on page 3). Using a non-conductive tool (i.e. pencil), carefully change the DIP-switch settings as desired in Figure 9. To replace the plug, simply line up plug with hole and apply pressure to middle of plug. Unplug the Vaddio PowerRite Power Supply from the AC receptacle for at least ten (10) seconds then reconnect the power supply. The camera should now be ready to function with your new remote control (see Figure 10).



IMPORTANT NOTE: Camera will work with only one type of a remote at a time.

Dip Switch #1 in ON (up) position will power the Blue LED ON. To disable the Blue LED, move switch #1 to the off position (switch 2 is not used).

OUTPUT RESOLUTIONS

The CeilingVIEW Mega-Pro is a unique product with a unique approach to output resolution selection for the purpose of matching the output resolution of the CeilingVIEW Mega-Pro to the native resolution and aspect ratio of the display device (i.e. data monitor, plasma, LCD projector, etc...).

The CeilingVIEW Mega-Pro offers 2 different video Formats; NTSC (North America) and PAL (Europe), with 2 different aspect ratios; 4:3 and 16:9, with two types of interlaced video outputs; S-Video and Composite, and many interlaced computer resolutions (scaled and windowed) at multiple vertical refresh rates, aspect ratios and including Wide XGA formats.

The wide variety of resolutions included in the CeilingVIEW Mega-Pro reflect the magnitude and variety of display devices available today

The following Tables (Table 1 for NTSC - Table 2 for PAL) specifically list the resolutions available within each video format:

NTSC Format
Table 1

CeilingVIEW Mega- Pro NTSC (999-3304-000)

Composite Video:
4:3 and 16:9 aspect ratios
S-Video:
4:3 and 16:9 aspect ratios

Selectable Computer Resolutions:		
Name	Resolution	Vertical Refresh Rate
VGA	640 x 480	60 Hz
VGA	640 x 480	75 Hz
SVGA	800 x 600	60 Hz
SVGA	800 x 600	85 Hz
XGA	1024 x 768	60 Hz
XGA	1024 x 768	75Hz
SXGA	1280 x 1024	60 Hz
SXGA	1280 x 1024	75 Hz
*Wide VGA - WVGA	854 x 480	60 Hz
*Wide XGA - WXGA	1280 x 768	72 Hz

**Wide VGA (WVGA) and Wide XGA (WXGA) are 16:9 formats only.*

PAL Format
Table 2

CeilingVIEW Mega- Pro PAL (999-3304-001)

Composite Video:
4:3 and 16:9 aspect ratios
S-Video:
4:3 and 16:9 aspect ratios

Selectable Computer Resolutions:		
Name	Resolution	Vertical Refresh Rate
SVGA	800 x 600	60 Hz
SVGA	800 x 600	85 Hz
XGA	1024 x 768	60 Hz
XGA	1024 x 768	75Hz
SXGA	1280 x 1024	60 Hz
SXGA	1280 x 1024	72 Hz
*Wide VGA - WVGA	854 x 480	60 Hz
*Wide XGA - WXGA	1280 x 768	72 Hz

**Wide VGA (WVGA) and Wide XGA (WXGA) are 16:9 formats only.*



**Finding the
"Sweet-spot"**

For every display device used, try many different output resolutions to find the best possible match for resolution, aspect ratio and image sizing. As with any data monitor or LCD projector, the image may need to be sized and positioned to fit the display used.

You may find that on a older 50" Plasma monitor with 1024 x 1024 resolution, that the S-Video signal in 16:9 Wide format may look better than Wide XGA. This will be due to the extra scaling that the plasma has to perform in order to fit the image to the screen, down convert 1280 to 1024 and up convert 768 to 1024 to display WXGA at 1280 x 768 on the native resolution of 1024 x 1024. Additional scaling internal to the plasma, LCD or data monitor should be avoided when ever possible for the best possible image quality.



Control Systems

If you are using a control system (Crestron or AMX), plug the Cat. 5 cable from the RS-232 IN jack on the camera to your control system using the Cat.5 to DB9 serial adapter supplied by Vaddio. If you are controlling more than one camera and wish to daisy chain control, plug the Cat.5 cable from the RS-232 OUT jack on the first camera to the RS-232 IN jack on the second camera. Repeat procedure if third camera is added. *Use the CeilingVIEW Mega-Pro Visualizer as the last camera in the control chain only (no RS-232 OUT).*

COMMAND LIST

Vaddio supplies this control specification for the CeilingVIEW Mega-Pro Visualizer.

Communication Specification

Communication Speed: 9600 bps (default)
 Start bit: 1
 Stop bit: 1
 Data bits: 8
 Parity: None

Communication Example:

For the VISCA Packet "8x 01 04 07 03 FF" (CAM_Zoom_Wide), "x" corresponds with the number and order of the camera in the control chain (daisy chain) where x = 1 for the first camera, x = 2 for the second camera, etc...

VISCA Command Set

Command Set	Command	Command Packet	Comments
AddressSet	Broadcast	88 30 01 FF	
IF_Clear	Broadcast	88 01 00 01 FF	
CommandCancel		8x 2p FF	P: Socket No. (=1or2)
CAM_Power	On Off	8x 01 04 00 02 FF 8x 01 04 00 03 FF	Power ON/OFF
CAM_Zoom	Stop Tele(Standard) Wide(Standard) Tele(Variable) Wide(Variable) Direct	8x 01 04 07 00 FF 8x 01 04 07 02 FF 8x 01 04 07 03 FF 8x 01 04 07 2p FF 8x 01 04 07 3p FF 8x 01 04 47 0p 0q 0r 0s FF	P=0 (Low) to 7 (High) Pqrs: Zoom Position
CAM_Dzoom	On Off Combine Mode Separate Mode Stop Tele(Variable) Wide(Variable) Direct	8x 01 04 06 02 FF 8x 01 04 06 03 FF 8x 01 04 36 00 FF 8x 01 04 36 01 FF 8x 01 04 06 00 FF 8x 01 04 06 2p FF 8x 01 04 06 3p FF 8x 01 04 46 00 0p 0q FF	Digital Zoom ON/OFF Opt/Dig Zoom Combined Opt/Dig Zoom Separate P=0(Low) to 7 (High) Pq: D-Zoom Position
CAM_Focus	Stop Far(Standard) Near(Standard) Far(Variable) Near(Variable) Direct Auto Focus Manual Focus Auto/Manual One Push Trigger Infinity	8x 01 04 08 00 FF 8x 01 04 08 02 FF 8x 01 04 08 03 FF 8x 01040802p FF 8x 01 04 08 3p FF 8x 01 04 048 0p 0q 0r 0s FF FF 8x 01 04 38 02 FF 8x 01 04 38 03 FF 8x 01 04 38 10 FF 8x01 04 18 01 FF 8x 01 04 18 02 FF	P=0 (Low) to 7 (High) Pqrs: Focus Position AF ON/OFF One Push AF Trigger Forced Infinity
CAM_AFMode	Normal AF Interval AF Zoom Trigger AF Active/Interval Time	8x 01 04 57 00 FF 8x 01 04 57 01 FF 8x 01 04 57 02 FF 8x 01 04 27 0p 0q 0r 0s FF	AF Movement Mode Pq: Active Time, rs: Interval

**Command Set
(continued)**

CAM_ZoomFocus	Direct	8x 01 04 47 0p 0q 0r 0s 0t 0u 0v 0w FF	Pqrs: Zoom Position Tuvw: Focus Position
CAM_WB	Auto Indoor Outdoor One Push WB Manual One Push Trigger	8x 01 04 35 00 FF 8x 01 04 35 01 FF 8x 01 04 35 02 FF 8x 01 04 35 03 FF 8x 01 04 35 05 FF 8x 01 04 10 05 FF	Normal Auto Indoor mode Outdoor mode One Push WB mode Manual Control mode One Push WB Trigger
CAM_Rgain	Reset Up Down Direct	8x 01 04 03 00 FF 8x 01 04 03 02 FF 8x 01 04 03 03 FF 8x 01 04 43 00 00 0p 0q FF	Manual Control of R Gain Pq: R Gain
CAM_Bgain	Reset Up Down Direct	8x 01 04 03 00 FF 8x 01 04 03 02 FF 8x 01 04 03 03 FF 8x 01 04 43 00 00 0p 0q FF	Manual Control of B Gain P1: B Gain
CAM_AE	Full Auto Manual Shutter Priority Iris Priority Bright	8x 01 04 39 00 FF 8x 01 04 39 03 FF 8x 01 04 39 0A FF 8x 01 04 39 0B FF 8x 01 04 39 0D FF	Auto Exposure mode Manual Control mode Shutter Priority Auto Exp Iris Priority Auto Exp Bright Mode (Manual)
CAM_SlowShutter	Auto Manual	8x 01 04 5A 03 FF 8x 01 04 5A 03 FF	Auto Slow Shutter ON/OFF
CAM_Shutter	Reset Up Down Direct	8x 01 04 0A 00 FF 8x 01 04 0A 02 FF 8x 01 04 0A 03 FF 8x 01 04 4A 00 00 0p 0q FF	Shutter Setting
CAM_Iris	Reset Up Down Direct	8x 01 04 0B 00 FF 8x 01 04 0B 02 FF 8x 01 04 0B 03 FF 8x 01 04 4B 00 00 0p 0q FF	Iris Setting Pq: Iris Position
CAM_Gain	Reset Up Down Direct	8x 01 04 0C 00 FF 8x 01 04 0C 02 FF 8x 01 04 0C 03 FF 8x 01 04 4C 00 00 0p 0q FF	Gain Setting Pq: Gain Position
CAM_Bright	Reset Up Down Direct	8x 01 04 0D 00 FF 8x 01 04 0D 02 FF 8x 01 04 0D 03 FF 8x 01 04 4D 00 00 0p 0q FF	Bright Setting Pq: Bright Position
CAM_ExpComp	On Off Reset Up Down Direct	8x 01 04 3E 02 FF 8x 01 04 3E 03 FF 8x 01 04 0E 00 FF 8x 01 04 0E 02 FF 8x 01 04 0E 03 FF 8x 01 04 4E 00 00 0p 0q FF	Exp. Compensation on/off Exp. Comp. Amt Setting Pq: ExpComp Position
CAM_Backlight	On Off	8x 01 04 33 02 FF 8x 01 04 33 03 FF	Backlight Comp. ON/OFF
CAM_SpotAE	On Off Position	8x 01 04 59 02 FF 8x 01 04 59 03 FF 8x 01 04 29 0p 0q 0r 0s FF	Spot Auto Exp. Setting Pq: X(0 to F), rs: Y(0 to F)
CAM_Aperture	Reset Up Down Direct	8x 01 04 02 00 FF 8x 01 04 02 02 FF 8x 01 04 02 03 FF 8x 01 04 42 00 00 0p 0q FF	Aperture Control Pq: Aperture Gain
CAM_Wide	Off 16:9 Wide	8x 01 04 60 00 FF 8x 01 04 60 02 FF	Wide mode setting
CAM_Freeze	On Off	8x 01 04 62 02 FF 8x 01 04 62 03 FF	Still Image ON/OFF



**Command Set
(continued)**

CAM_PictureEffect	Off Neg.Art B&W	8x 01 04 63 00 FF 8x 01 04 63 02 FF 8x 01 04 63 04 FF	Picture Effect Setting
CAM_Memory	Reset Set Recall	8x 01 04 3F 00 pp FF 8x 01 04 3F 01 pp FF 8x 01 04 3F 02 pp FF	P: Memory # (=0 to 5)
CAM_CUSTOM	Reset Set Recall	8x 01 04 3F 00 7F FF 8x 01 04 3F 01 7F FF 8x 01 04 3F 01 7F FF	Starts in this mode at Power ON
CAM_Display	On Off On/Off	8x 01 04 15 02 FF (8x 01 06 06 02 FF) 8x 01 04 15 03 FF (8x 01 06 06 03 FF) 8x 01 04 15 10 FF (8x 01 06 06 10 FF)	Display ON/OFF
CAM_Date/TimeSet	Date/TimeSet	8x 01 04 70 0m 0n 0p 0q 0r 0s 0t 0u 0v 0w FF (8x 01 07 29 0m 0n 0p 0q 0r 0s 0t 0u 0v 0w FF)	Mn: Year (20mn) Pq: Month, rs: Day Tu: Hour, vw: Minute
CAM_DateDisplay	On Off	8x 01 04 71 02 FF (8x 01 07 2A 02 FF) 8x 01 04 71 03 FF (8x 01 07 2A 03 FF)	Date Display ON/OFF
CAM_TimeDisplay	On Off	8x 01 04 72 02 FF (8x 01 07 2B 02 FF) 8x 01 04 72 03 FF (8x 01 07 2B 03 FF)	Time Display ON/OFF
CAM_Title	Title Set1 Title Set2 Title Set3 Title Clear On Off	8x 01 04 73 00 mm nn pp qq 00 00 00 00 00 00 FF 8x 01 04 73 01 mm nn pp qq rr ss tt uu vv ww FF 8x 01 04 73 02 mm nn pp qq rr ss tt uu vv ww FF 8x 01 04 74 00 FF 8x 01 04 74 02 FF 8x 01 04 74 03 FF	Mm: Vposition, nn: Hposition Pp: Color, qq: Blink Mnoqrstuvw: Setting of Display Characters (1 st to 10 st Character) Mnpqrstuvw: Setting of Display Characters (11 th to 20 th Character) Title Setting Clear Title Display ON/OFF
CAM_Mute	On Off On/Off	8x 01 04 75 02 FF 8x 01 04 75 03 FF 8x 01 04 75 10 FF	Mute ON/OFF
CAM_KEY Lock	Off On	8x 01 04 17 00 FF 8x 01 04 17 02 FF	Camera control on/off
CA_ID Write		8x 01 04 22 0p 0q 0r 0s FF	Pqrs: Camera ID (0000-FFFF)
CAM_PowerInq	8x 09 04 00 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_ZoomPosInq	8x 09 04 47 FF	Y0 50 0p 0q 0r 0s FF	Pqrs: Zoom Position
CAM_DzoomModelInq	8x 09 04 06 FF	Y0 50 02 FF Y0 50 03 FF	D-Zoom On D-Zoom Off
CAM_Set Resolution	VGA-60Hz VGA-75Hz SVGA-60Hz SVGA-85Hz XGA-60Hz XGA-75Hz SXGA-60Hz SXGA-75Hz WVGA-60Hz WXGA-72HZ	8x 01 04 2F 0a FF 8x 01 04 2F 0c FF 8x 01 04 2F 12 FF 8x 01 04 2F 14 FF 8x 01 04 2F 22 FF 8x 01 04 2F 24 FF 8x 01 04 2F 42 FF 8x 01 04 2F 44 FF 8x 01 04 2F 7a FF 8x 01 04 2F 72 FF	VGA – NTSC Only VGA – NTSC Only PAL SXGA 72Hz Wide VGA Wide XGA
CAM_LaserPointer	ON OFF Toggle	8x 01 04 2F 02 FF 8x 01 04 2F 03 FF 8x 01 04 2F 01 FF	

**Vaddio
Commands**



Inquiry List

Inquiry Command	Command Packet	Inquiry Packet	Comments
CAM_DzoomC/SmodelInq	8x 09 04 36 FF	Y0 50 00 FF Y0 50 01 FF	Combine Mode Separate Mode
CAM_DzoomPosInq	8x 09 04 46 FF	Y0 50 00 00 0p 0q FF	Pq: D-Zoom Position
CAM_FocusModelInq	8x 09 04 38 FF	Y0 50 02 FF Y0 50 03 FF	Auto Focus Manual Focus
CAM_FocusPosInq	8x 09 04 48 FF	Y0 50 0p 0q 0r 0s FF	Pqrs: Focus Position
CAM_AFModelInq	8x 09 04 57 ff	Y0 50 00 FF Y0 50 01 FF Y0 50 02 FF	Normal AF Interval AF Zoom Trigger AF
CAM_AFTimeSettingInq	8x 0+ 04 27 FF	Y0 50 0p 0q 0r 0s FF	Pq: Active Time, rs: Interval
CAM_WBModelInq	8x 09 04 35 FF	Y0 50 00 FF Y0 50 01 FF Y0 50 02 FF Y0 50 03 FF Y0 50 05 FF	Auto In Door Out Door One Push WB Manual
CAM_RgainInq	8x 09 04 43 FF	Y0 50 00 00 0p 0q FF	Pq: R Gain
CAM_BgainInq	8x 09 04 44 FF	Y0 50 00 00 0p 0q FF	Pq: B Gain
CAM_AEModelInq	8x 09 04 35 FF	y0 50 00 FF y0 50 03 FF y0 50 0A FF y0 50 0B FF y0 50 0D FF	Full Auto Manual Shutter Priority Iris Priority Bright
CAM_SlowShutterModelInq	8x 09 04 5A FF	Y0 50 02 FF Y0 50 03 FF	Auto Manual
CAM_ShutterPosInq	8x 09 04 4A FF	Y0 50 00 00 0p 0q FF	Pq: Shutter Position
CAM_IrisPosInq	8x 09 04 4B FF	Y0 50 00 00 0p 0q FF	Pq: Iris Position
CAM_GainPosInq	8x 09 04 4C FF	Y0 50 00 00 0p 0q FF	Pq: Gain Position
CAM_BrightPosInq	8x 09 04 4D FF	Y0 50 00 00 0p 0q FF	Pq: Bright Position
CAM_ExpCompModelInq	8x 09 04 3E FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_ExpCompPosInq	8x 09 04 4E FF	Y0 50 00 00 0p 0q FF	Pq: ExpComp Position
CAM BacklightModelInq	8x 09 04 33 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_SPotAEPoSInq	8x 09 04 59 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_SpotAEPoSInq	8x 09 04 29 FF	Y050 0p 0q 0r 0s FF	Pq: X position, rs: Y position
CAM_ApertureInq	8x 09 04 42 FF	Y0 50 00 00 0p 0q FF	Pq: Aperture Gain
CAM_WideModelInq	8x 09 04 60 FF	Y0 50 00 FF Y0 50 02 FF	Off 16:9 Wide
CAM_FreezeModelInq	8x 09 04 62 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_PictureEffectModelInq	8x 09 04 63 FF	Y0 50 00 FF Y0 50 02 FF Y0 50 04 FF	Off Neg.Art B&W
CAM_MemoryInq	8x 09 04 3F FF	Y0 50 pp FF	Pp: Last Recall Memory No.
CAM_DisplayModelInq	8x 09 04 15 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_DateDisplayModelInq	8x 09 04 71 FF	Y0 50 02 FF Y0 50 03 FF	On Off
CAM_TimeDisplayModelInq	8x 09 04 72 FF	y0 50 02 FF y0 50 03 FF	On Off
CAM_TitleDisplayModelInq	8x 09 04 74 FF	y0 50 02 FF y0 50 03 FF	On Off
CAM_MuteModelInq	8x 09 04 75 FF	Y0 50 02 FF y0 50 03 FF	On Off
CAM_KeyLockInq	8x 09 04 17 FF	Y0 50 00 FF y0 50 02 FF	Off On
CAM_IDInq	8x 09 04 22 FF	Y0 50 0p 0q 0r 0s FF	pqrs: Camera ID
CAM_ResolutionInq	8x 09 2F 3F FF	y0 50 0a FF y0 50 0c FF y0 50 12 FF y0 50 14 FF y0 50 22 FF y0 50 24 FF y0 50 42 FF y0 50 44 FF y0 50 7a FF y0 50 72 FF	VGA-60Hz VGA-75Hz SVGA-60Hz SVGA-85Hz XGA-60Hz XGA-75Hz SXGA-60Hz SXGA-75Hz WVGA-60Hz WXGA-72HZ
CAM_LaserPointerInq	8x 09 04 2F FF	y0 50 02 FF y0 50 03 FF y0 50 01 FF	ON OFF Toggle



CARE AND CLEANING

- Do not attempt to take the camera module apart. There are no user-serviceable components inside.
- Do not spill liquids onto the camera
 - Keep this device away from food and liquid
 - Avoid touching the lens
 - For smears or smudges, clear any dust with a blower and wipe stains with a glass cleaner and clean, soft cloth.
 - To clean exterior of camera, wipe with a clean soft cloth. Do not use any abrasive chemicals.

OPERATING AND STORAGE CONDITIONS

- Do not store or operate the CeilingVIEW Mega-Pro Visualizer under the following conditions for any circumstance:
- Temperatures above 40°C (104°F)
 - Temperatures below 0°C (32°F)
 - High humidity, condensing or wet environments
 - Dusty environments
 - In inclement weather
 - Under severe vibration

GENERAL SPECIFICATIONS

Image Sensor	3-chip 1/4.7 type Interline Transfer (IT) Advanced HAD CCD
Number of Effective Pixels:	1,070,000 per image sensor
Aspect Ratio:	4:3/16:9 switchable
Signal Format:	NTSC and PAL
Horizontal Resolution:	530 TV Lines
Computer Resolutions: (See Resolution Tables for Specific Resolutions and Vertical Refresh Rates)	NTSC – VGA through SXGA with WVGA & WXGA formats supported PAL – SVGA through SXGA with WVGA & WXGA formats supported
Lens:	12x zoom, f=3.6 mm (wide) to 43.2 mm (tele), F1.6 to F2.8
Digital Zoom:	4x (48x total with optical zoom)
Angle of View:	Approx. 37.8° (wide end) to 3.3° (tele end) (4:3 mode) / Approx. 45.4° (wide end) to 4.0° (tele end) (16:9 mode)
Minimum Working Distance:	10 mm (wide end) to 800 mm (tele end)
Sync System:	Internal
Minimum Illumination:	7.0 Lux (F1.6)
S/N Ratio:	More than 50 dB
Electronic Shutter:	1/4 to 1/10,000 s, 20 steps
White Balance:	Auto, Indoor, Outdoor, One-push, Manual
AE Control:	Auto, Manual, Iris Priority, Shutter Priority
EV Compensation:	ON/OFF
Slow Shutter:	Auto/Manual
Back Light Compensation:	ON/OFF
Focusing System:	Auto, Manual, One-push AF, Infinity, Zoom Trigger, Interval
Picture Effect:	Negative Art, Black & White
Digital Effect:	Freeze
Video Output:	VBS: 1.0 Vp-p (sync negative) Y/C: Y:1.0 Vp-p (sync negative) C:0.286 Vp-p (without sync) R/G/B/Sync: 0.7 Vp-p (sync: 5 V TTL level)
Camera Control Interface:	RS-232C/TTL signal control (VISCA™) protocol, baud rate: 9.6 Kb/s
Operating/Storage Temperature:	0°C to 44°C (32°F to 104°F)
Power Requirements:	PowerRite 18 VDC Switching Power Supply
Power Consumption:	500ma nominal, 650ma with Zoom/Focus motors engaged
Weight:	4.5 lbs. (2.04kg)
Dimensions (H x W x D):	5.625" (14.29cm) x 8" (20.32cm) x 8" (20.32cm)
CeilingVIEW Mega-Pro Visualizer Part Numbers	999-3304-000 CeilingVIEW Mega-Pro NTSC 999-3304-001 CeilingVIEW Mega-Pro PAL
Mounting Accessory:	Recessed Installation Ceiling Conversion Kit Part Number 535-2000-210 <ul style="list-style-type: none"> • Mounting ears/plates, trim ring and mounting hardware included



WARRANTY INFORMATION

Hardware* Warranty - One year limited warranty on all parts. Vaddio warrants this product against defects in materials and workmanship for a period of one year from the day of purchase if Vaddio receives notice of such defects during the warranty. They will, at its option, repair or replace products that prove to be defective.

Exclusions - The above warranty shall not apply to defects resulting from: improper or inadequate maintenance by the customer, customers applied software or interfacing, unauthorized modifications or misuse, operation outside the normal environmental specifications for the product, use of the incorrect power supply, or improper site operation and maintenance.

Vaddio Customer service – Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

Vaddio Technical support - Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at support@vaddio.com or online at www.vaddio.com.

Return Material Authorization (RMA) number - Before returning a product for repair or replacement request an RMA from Vaddio's technical support. Provide a technician with a return phone number, e-mail address, shipping address, and product serial numbers. Describe the reason for repairs or returns as well as the date of purchase. Include your assigned RMA number in all correspondence with Vaddio. Write your assigned RMA number on the outside of the box when returning the product.

Voided warranty – The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, or unauthorized repair.

Shipping and handling - Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. Contact your carrier immediately.

Products not under warranty - Payment arrangements are required before outbound shipment for all out of warranty products.

*Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.

COMPLIANCE



FCC Part 15/ICES-003 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a Commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by Vaddio could void the user's authority to operate the equipment.



European Compliance

This equipment has been approved in accordance with Council Directive 1999/5/EC "Radio Equipment and Telecommunications Equipment". Compliance of the equipment with the Directive is attested by the application of the CE mark on the equipment.

EC Declaration of Conformity

Application of Council Directive(s):	1999/5/EC Radio equipment and Telecommunications Terminal Equipment (R&TTE) Directive
Manufacturer's Name:	Vaddio, A Division of Photo Control
Manufacturer's Address:	4800 Quebec Avenue North. Minneapolis, MN 55428 USA
Model Name:	CeilingVIEW Mega-Pro Visualizer
Model Number:	999-3304-000 for NTSC 999-3304-001 for PAL

**Standard(s) to which Conformity is declared:
89/336/EEC "Electromagnetic Compatibility (EMC) Directive":**

EN 55022: 1994 (Emissions)	Specification for limits and methods of measurement of radio interference characteristics of information technology equipment. PAL version (999-3304-001) requires use the included ferrites on Cat. 5 cables to maintain strict compliance.
EN 61000-3-2:1995/A1/A2: 1998	Part 3: Limits - Section 2: Limits for harmonic current emissions.
EN 61000-3-3:1995	Section 3: Limitation of voltage fluctuations and flicker in low voltage supply systems for equipment with rated current up to and including 16 A
EN 55024: 1998 (Immunity)	Information technology equipment – Immunity characteristic - Limits and methods of measurement
EN 61000-4-2: 1995/A1: 1998	Electrostatic Discharge
EN 61000-4-3: 1996/A1: 1998	Radiated RF Immunity
EN 61000-4-4: 1995	Electrical Fast Transients
EN 61000-4-5: 1995	Lighting Surge
EN 61000-4-6: 1996	Conducted RF Immunity
EN 61000-4-11: 1994	Voltage Dips and Voltage Interruptions



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